



[6450-01-P]

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

[Case No. CAC-038]

Decision and Order Granting a Waiver Granted to Samsung Electronics America, Inc. from the Department of Energy Commercial Package Air Conditioner and Heat Pump Test Procedures

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Decision and Order.

SUMMARY: The U.S. Department of Energy (DOE) gives notice of the decision and order (Case No. CAC-038) that grants Samsung Electronics America, Inc. (Samsung) a waiver from the DOE commercial package air-source central air conditioners and heat pumps test procedures for determining the energy consumption set forth in its petition for waiver. Under today's decision and order, Samsung shall be required to test and rate its variable capacity Digital Variable Multi (DVM) (commercial) multi-split heat pumps with cooling capacities ranging from 72,000 Btu/h to 120,000 Btu/h, as specified in its petition using American National Standards Institute (ANSI) / Air-conditioning, Heating and Refrigeration Institute (AHRI) Standard 1230, as adopted in DOE's final rule dated May 16, 2012.

DATES: This Decision and Order is effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] through May 12, 2013.

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SUPPLEMENTARY INFORMATION: DOE issues notice of this Decision and Order in accordance with Title 10 of the Code of Federal Regulations (10 CFR) 431.401(f)(4). In this Decision and Order, DOE grants Samsung a waiver for the variable capacity DVM (commercial) multi-split heat pump equipment specified in its waiver submitted on October 17, 2011. Samsung must test and rate this equipment using ANSI/AHRI 1230, as adopted in DOE's final rule dated May 16, 2012 (77 FR 28928), as the alternative test procedure. DOE's final rule specifies use of ANSI/AHRI 1230, but omits sections 5.1.2 and 6.6.

Today's decision requires Samsung to make representations concerning the energy efficiency of this equipment consistent with the provisions and restrictions of the alternate test

procedure in the Decision and Order below, and the representations must fairly disclose the test results. (42 U.S.C. 6314(d)) The same standard applies to distributors, retailers, and private labelers when making representations of the energy efficiency of this equipment.

Issued in Washington, DC, on November 9, 2012.

Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

Decision and Order

In the Matter of: Samsung Electronics America, Inc. (Samsung) (Case No. CAC-038).

I. *Background and Authority*

Title III, Part C of the Energy Policy and Conservation Act of 1975 (EPCA), Pub. L. 94-163 (42 U.S.C. 6311-6317), established the Energy Conservation Program for certain industrial equipment, which includes commercial air conditioning equipment, the focus of this decision and order.¹ Part C specifically includes definitions (42 U.S.C. 6311), test procedures (42 U.S.C. 6314), labeling provisions (42 U.S.C. 6315), energy conservation standards (42 U.S.C. 6313), and the authority to require information and reports from manufacturers (42 U.S.C. 6316). With respect to test procedures, Part C authorizes the Secretary of Energy (the Secretary) to prescribe test procedures that are reasonably designed to produce results that measure energy efficiency, energy use, and estimated annual operating costs, and that are not unduly burdensome to conduct. (42 U.S.C. 6314(a)(2))

For commercial package air-conditioning and heating equipment, EPCA provides that “the test procedures shall be those generally accepted industry testing procedures or rating procedures developed or recognized by the Air-Conditioning and Refrigeration Institute [ARI] or by the American Society of Heating, Refrigerating and Air-Conditioning Engineers [ASHRAE], as referenced in ASHRAE/IES Standard 90.1 and in effect on June 30, 1992.” (42 U.S.C. 6314(a)(4)(A)) If the industry test procedure for commercial package air-conditioning and heating equipment is amended, EPCA directs the Secretary to amend the corresponding DOE test

¹ For editorial reasons, upon codification in the U.S. Code, Part C was re-designated Part A-1.

procedure unless the Secretary determines, by rule and based on clear and convincing evidence, that such a modified test procedure does not meet the statutory criteria set forth in 42 U.S.C. 6314(a)(2) and (3). (42 U.S.C. 6314(a)(4)(B))

On December 8, 2006, DOE published a final rule adopting test procedures for commercial package air-conditioning and heating equipment, effective January 8, 2007. 71 FR 71340. Table 1 to Title 10 of the Code of Federal Regulations (10 CFR) 431.96 directs manufacturers of commercial package air conditioning and heating equipment to use the appropriate procedure when measuring energy efficiency of this equipment. For commercial package air-source equipment with capacities between 65,000 and 760,000 Btu/h, ARI Standard 340/360-2004 is the applicable test procedure.

DOE's regulations for covered products and equipment permit a person to seek a waiver from the test procedure requirements for covered commercial equipment if at least one of the following conditions is met: (1) the petitioner's basic model contains one or more design characteristics that prevent testing according to the prescribed test procedures; or (2) the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption as to provide materially inaccurate comparative data. 10 CFR 431.401(a)(1). Petitioners must include in their petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption. 10 CFR 431.401(b)(1)(iii). The Assistant Secretary for Energy Efficiency and Renewable Energy (Assistant Secretary) may grant a waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 431.401(f)(4). Waivers remain in effect according to the

provisions of 10 CFR 431.401(g).

On October 17, 2011, Samsung submitted a petition for waiver from the DOE test procedure applicable to commercial package air-source and water-source central air conditioners and heat pumps set forth in 10 CFR 431.96. Samsung requested the waiver for the specified basic model of Samsung's variable capacity Digital Variable Multi (DVM) (commercial) multi-split heat pumps with cooling capacities ranging from 72,000 Btu/h to 120,000 Btu/h. The applicable test procedure for these heat pumps is ARI 340/360-2004. Manufacturers are directed to use these test procedures pursuant to Table 1 of 10 CFR 431.96. Samsung seeks a waiver from the applicable test procedures under 10 CFR 431.96 on the grounds that its DVM multi-split heat pumps contain design characteristics that prevent testing according to the current DOE test procedures. Samsung requested that DOE allow it to test and rate its DVM multi-split heat pumps with cooling capacities ranging from 72,000 Btu/h to 120,000 Btu/h according to the American National Standards Institute (ANSI) / Air-conditioning, Heating and Refrigeration Institute (AHRI) Standard 1230-2010: Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment (AHRI 1230).

On May 16, 2012, DOE published a final rule (77 FR 28928) adopting certain revised efficiency standards and test procedures provided in American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2010 (ASHRAE final rule). The ASHRAE final rule incorporated by reference ANSI/AHRI 1230-2010 but it omits sections 5.1.2 and 6.6 for the products addressed in this waiver request. The rule was effective on July 16, 2012 and requires use of the test procedure on or after May 13, 2013. This decision and order

(D&O) requires Samsung to use ANSI/AHRI 1230-2010 as addressed in the DOE's May 16, 2012 final rule (77 FR 28928) to test and rate specified models in order to be consistent with future test procedure requirements.

II. *Samsung's Petition for Waiver: Assertions and Determinations*

In its October 17, 2011 petition, Samsung seeks a waiver from the applicable test procedures under 10 CFR 431.96 on the grounds that its DVM multi-split heat pumps contain design characteristics that prevent testing according to the current DOE test procedures. Specifically, Samsung asserts that the two primary factors that prevent testing of its DVM multi-split variable speed products are the same factors stated in the waivers that DOE granted to Mitsubishi Electric & Electronics America USA, Inc. (Mitsubishi) and other manufacturers for similar lines of commercial multi-split air-conditioning systems:

- Testing laboratories cannot test products with so many indoor units; and
- There are too many possible combinations of indoor and outdoor units to test.

See, e.g., 72 FR 17528 (April 9, 2007) (Mitsubishi); 76 FR 19069 (April 6, 2011) (Daikin); 76 FR 19078 (April 6, 2011) (Mitsubishi); 76 FR 31951 (June 2, 2011) (Carrier); 76 FR 50204 (August 12, 2011) (Fujitsu General Limited); 76 FR 65710 (October 24, 2011) (Mitsubishi).

The DVM systems have operational characteristics similar to the commercial multi-split products manufactured by other manufacturers. As indicated above, DOE has already granted waivers for these products. The DVM system consists of multiple indoor units connected to an air-cooled outdoor unit. These multi-splits are used in zoned systems where an outdoor or water-source unit can be connected with up to 10 separate indoor units, which need not be the same

models. According to Samsung, the various indoor and outdoor models can be connected in a multitude of configurations, with many thousands of possible combinations. Consequently, Samsung requested that DOE grant a waiver from the applicable test procedures for its DVM product designs until a suitable test method can be prescribed.

For the reasons discussed above, and because DOE prescribed ANSI/AHRI 1230 as the alternate test procedure in waivers granted to other manufacturers (including the grant of Samsung's interim waiver request (76 FR 80916, Dec. 27, 2011), DOE determined that the equipment specified in Samsung's October 17, 2011 petition contains design characteristics that prevent testing according to the DOE test procedure, and that allowing Samsung to use as an alternate test procedure ANSI/AHRI 1230, as adopted in DOE's final rule dated May 16, 2012 (77 FR 28928), addresses these testing difficulties.

Consultations with Other Agencies

DOE consulted with the Federal Trade Commission (FTC) staff concerning the Samsung petition for waiver. The FTC staff did not have any objections to granting a waiver to Samsung.

III. *Conclusion*

After careful consideration of all the material that was submitted by Samsung and consultation with the FTC staff, it is ordered that:

(1) The petition for waiver submitted by the Samsung (Case No. CAC-038) is hereby granted as set forth in the paragraphs below.

(2) Samsung shall be required to test and rate the following basic model groups according to the alternate test procedure set forth in paragraph (3) of this section.

Type	Model	Description	Cooling/Heating [Btu/h]
Outdoor Unit	RVXVHT075FE	Condensing unit heat pump	72,000/81,000
	RVXVHT100FE	Condensing unit heat pump	96,000/108,000
	RVXVHT125FE	Condensing unit heat pump	120,000/135,000
	RD075VRXFA	Condensing unit heat pump	72,000/81,000
	RD100VRXFA	Condensing unit heat pump	96,000/108,000
	RD125VRXFA	Condensing unit heat pump	120,000/135,000
Indoor Unit	AVXCMH032CE	4-Way Ceiling Cassette Heat pump	9,500/10,500
	AVXCMH040CE	4-Way Ceiling Cassette Heat pump	12,000/13,500
	AVXCMH052CE	4-Way Ceiling Cassette Heat pump	18,000/20,000
	AVXCMH060CE	4-Way Ceiling Cassette Heat pump	20,000/23,000
	AVXC4H052CE	4-Way Ceiling Cassette Heat pump	18,000/20,000
	AVXC4H072CE	4-Way Ceiling Cassette Heat pump	24,000/27,000
	AVXC4H100CE	4-Way Ceiling Cassette Heat pump	30,000/34,000
	AVXC4H110CE	4-Way Ceiling Cassette Heat pump	36,000/40,000
	AVXC4H145CE	4-Way Ceiling Cassette Heat pump	48,000/54,000
	AVXDSH020CE	Built-in Slim Duct (Low pressure)	6,000/7,000
	AVXDSH032CE	Built-in Slim Duct (Low pressure)	9,500/10,500
	AVXDSH040CE	Built-in Slim Duct (Low pressure)	12,000/13,500
	AVXDSH052CE	Built-in Slim Duct (Low pressure)	18,000/20,000
	AVXDSH072CE	Built-in Slim Duct (Low pressure)	24,000/27,000
	AVXDSH100CE	Built-in Slim Duct (Low pressure)	30,000/34,000
	AVXDSH110CE	Built-in Slim Duct (Low pressure)	36,000/40,000
	AVXDSH145CE	Built-in Slim Duct (Low pressure)	48,000/54,000
	AVXDUH100CE	Built-in Duct (Mid pressure)	30,000/34,000
	AVXDUH110CE	Built-in Duct (Mid pressure)	36,000/40,000
	AVXDUH145CE	Built-in Duct (Mid pressure)	48,000/54,000
	AVXWVH020CE	High Wall Mount Heat Pump	6,000/7,000
	AVXWVH032CE	High Wall Mount Heat Pump	9,500/10,500
	AVXWVH040CE	High Wall Mount Heat Pump	12,000/13,500
	AVXWVH052CE	High Wall Mount Heat Pump	18,000/20,000

AVXWVH060CE	High Wall Mount Heat Pump	20,000/23,000
AVXWNH020CE	High Wall Mount Heat Pump	6,000/7,000
AVXWNH032CE	High Wall Mount Heat Pump	9,500/10,500
AVXWNH040CE	High Wall Mount Heat Pump	12,000/13,500
AVXWNH052CE	High Wall Mount Heat Pump	18,000/20,000
AVXWNH060CE	High Wall Mount Heat Pump	20,000/23,000
AVXCSH023CE	1-Way Ceiling Cassette Heat pump	7,500/8,500
AVXCSH032CE	1-Way Ceiling Cassette Heat pump	9,500/10,500
AVXCSH040CE	1-Way Ceiling Cassette Heat pump	12,000/13,500

(3) Samsung shall not be required to test the products listed in paragraph (2) of this section according to the test procedure for commercial package air conditioners and heat pumps prescribed by DOE at 10 CFR 431.96 (ARI Standard 340/360-2004 (incorporated by reference in 10 CFR 431.95(b)(2)-(3))), but instead shall use as the alternate test procedure ANSI/AHRI 1230-2010 as adopted in DOE's final rule dated May 16, 2012 (77 FR 28928).

(4) Representations. In making representations about the energy efficiency of its DVM multi-split equipment, for compliance, marketing, or other purposes, Samsung must fairly disclose the results of testing under the DOE test procedure in a manner consistent with the provisions outlined below:

(i) For multi-split combinations tested in accordance with this alternate test procedure, Samsung may make representations based on those test results.

(ii) For multi-split combinations that are not tested, Samsung may make representations based on the testing results for the tested combination and that are consistent with one of the following methods:

(a) Rating of non-tested combinations according to an alternative rating method approved by DOE; or

(b) Rating of non-tested combinations having the same outdoor unit and all non-ducted indoor units shall be set equal to the rating of the tested system having all non-ducted indoor units.

(c) Rating of non-tested combinations having the same outdoor unit and all ducted indoor units shall be set equal to the rating of the tested system having all ducted indoor units. To be considered a ducted unit, the indoor unit must be intended to be connected with ductwork and have a rated external static pressure capability greater than zero (0).

(d) Rating of non-tested combinations having the same outdoor unit and a mix of non-ducted and ducted indoor units shall be set equal to the average of the ratings for the two required tested combinations.

(5) This waiver amendment shall remain in effect from the date this Decision and Order is issued, consistent with the provisions of 10 CFR 431.401(g). Compliance with the ASHRAE final rule, (77 FR 28928, May 16, 2012), is required beginning on May 13, 2013. Therefore, this D&O is valid through May 12, 2013. Beginning on May 13, 2013, all manufacturers must use the amended DOE test procedures to determine the energy use of this type of equipment.

Issued in Washington, DC, on November 9, 2012.

Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

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